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KEMP NIVER

American Cinematographer

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In the South Seas. Reproduced from Location Library of American Society of Cinematographers, Hollywood. Photographed by Frederick A. Parrish, A. S. C.

THIS MONTH:

Amateur Cinematography—By Joseph Dubray; John Grierson Speaks Out; "The Stiiis Move the Movies"; Do You Know Your Movies? Simplicity and Pictures—By Lewis Physioc; Tabie of Exposures; Kamera Komics; Questions and Answers.

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Vol. VIII OCTOBER, 1927 No. 7

American Cinematographer

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Editor and General Manager

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Technical Editor

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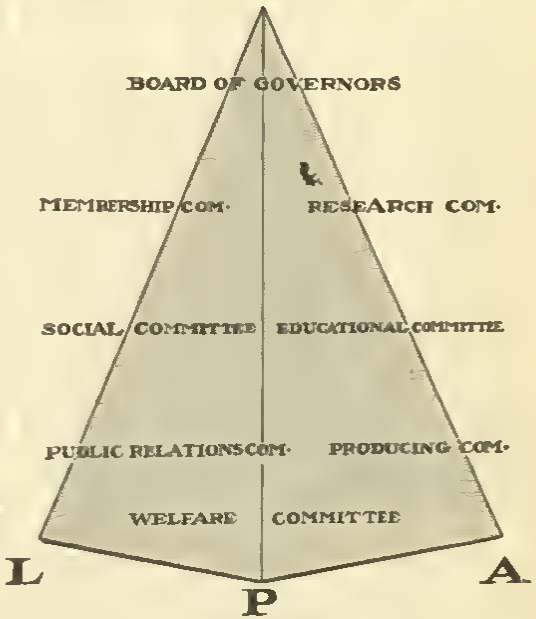
A. S. C.

THE PYRMID OF PROGRESS



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Putting Richness Into The Photoplay

By John Grierson

THE AMERICAN CINEMATOGRAPHER is deeply indebted to Mr. Grierson for the frankness with which he has expressed his opinion on the use of Panchromatic Film.

The advantage that it presents, the beauty that can be derived from it, have been known, considered, studied and experimented upon by cinematographers ever since the times when Orthochromatism and Panchromatism, were dependent entirely upon the skill and knowledge of the cinematographer, who had, himself, to color sensitize the materials furnished by manufacturers of sensitive emulsions, and a crying demand for it has been carried on incessantly on his part.

This demand has little by little spurred the manufacturer of film to invest great sums in perfecting this and subsidiary products. It has forced the manufacturer of lighting apparatus to adapt it to the new film. It has encouraged the laboratories to perfect the handling of this material so as to make its use safe and commercially practical.

This revolution, or better, this evolution, could not have been brought about until the advantages of Panchromatic film were brought by the cinematographer before the producer in an irrefutable manner.

The producer in general has been very cautious in accepting this innovation, not from a lack of enterprising spirit, but from a sense of protection of the vast sums of money intrusted to him for the purposes of production, which financial obligations had, as first duty, the obligation of bringing adequate returns.

It was up to the cinematographer to become the natural link between these interests and the adoption of this revolutionary measure. It was up to him to foster and make known the advantages that he *knew* to exist, but which he had to *sell* to all parties interested in the making of motion pictures.

An unherald but thoroughly wonderful amount of work has been accomplished by the cinematographer in order to, one by one, destroy all the obstacles placed in front of him before he could *prove* that Panchromatic film is the film of today and of tomorrow, before he could *instill in the producer that confidence that can be obtained only through actual achievements.*

THE AMERICAN CINEMATOGRAPHER welcomes such articles as Mr. Grierson's; it more than welcomes them. it solicits them conscious that only through such unbiased and friendly discussions can real *progress* in our art be brought forth.

Mr. Grierson is the kind of *friend* we want, not the kind that pats us on the back and tells us how great we are, but the kind that points out our defects, our shortcomings and so helps us in carrying on our progressive program.—[EDITOR'S NOTE.]

The Proof of Bigness

"It is a pet theory of mine that if there is a bag of average bones at the center, all the ermine in the world won't convince a public so ultimate as the world-public of the cinema. You may kid all the people some of the time, and some of the people all the time, but, etc. People may not be critically conscious of what's wrong, no more than they are critically conscious of the uniformed usher at the Capitol, but they sense the difference and "feel good" or "feel not-so-good" accordingly. The point is illustrated even in the public reaction of Ben Hur, which is by no means a flop. Most people go to see Ben Hur, but I would give odds that not many go to see it twice, certainly not nearly so many as go to see The Big Parade twice or Variety twice. The distinction is the one true guide to producers, for the reaction of wonder which makes a person go again and again is the proof of bigness in a photoplay. Like a big theatre, in fact, it should be so rich in effects that it can't be exhausted at a single sitting; there should be a certain something about it; there should be a hinterland of extras about it which is never quite fully explored. Wonder, whether it is a matter of picture or theater or the winds of heaven, is simply the sense of fundamental and inexhaustible richness. No extras can be turned down lightly, whether they are extras of photography, lighting, setting or imaginative handling, and the realms of art and poetry, criticism and research, should be explored for them. Artists and poets and research-men are difficult devils to handle; they talk a strange language, and the producers will have God's own job keeping their eyes on the world public; but they will be worth the trouble and tribulation.

Panchromatic and Photographic Richness

One of the values which has been grossly under-estimated in its relation to cinema richness is the value of good photography. As a case in point, I cite the reception of the producers to panchromatic film; no one I know of showed any excitement about it proportionate to its worth. On Wednesday, October 6, 1926, I found a note in the New York Sun heralding the arrival of panchromatic film. The story had a four-deck headline, and was treated in all respects as a newspaper scoop five or six years after the invention of panchromatic and at least three years after its actual demonstration as an aid to cinema in Moana. The fault, however, is not with the Sun but with the producers, because the value of panchromatic film in the making of pictures is just beginning —just beginning—to be realized.

Yet here is the story. Panchromatic changes the entire value of things photographed, or rather, it retains in celluloid that value in things which God gave them, and

(Continued on Page 22)

EDITORIAL—THE VOICE OF THE A. S. C.

The tremendous influx of amateur cinematographers has brought to light questions of vital interest to the professional cinematographer in particular, and to the public in general.

"Will the advent of the amateur cinematographer result in detriment to the professional?"

"Will the home projector finally supplant the motion pictures theater?"

"Will the public gradually lose its interest in motion pictures as a whole because of it becoming an art so accessible to anyone?"

To these three questiona we give an emphatic negative answer.

The kodak has not supplanted the professional photographer, but has spurred him on to greater achievements, and this is *progress.*

The cinema has not supplanted the legitimate theater, but has brought dramatic art into the most remote portions of the world and its artistic and educational values to the humble as well as to the wealthy, and this *is progress.*

The radio does not stop the public to attending "en masse" concerts, conventions, religious mretings, lectures, sport events, etc., but it has brought them home to the hundreds of thousands who have not been privileged actually to hear such manifestations of higher intellects and of public opiniona, and this also *is progress.*

The advent of the amateur cinematographer is tending to increase interest in motion pictures to the enjoyment of the amateur and to the benefit of the professional.

The cinematographer will profit from this advent because the problems he had to solve and is continually solving, his untiring efforts for the progress of his art, will be better known and understood by the public in general, hence better appreciated and recognized.

Amateur cinematography is considered by many, *a new fad.* In reality it is more than a *fad,* it is an *institution* from which new industries are arising and will continue to arise, new talents will be created and will have the opportunity of expressing themselves; new ideas and ideals will be developed for the greater glory of that manifestation that is called *progress.*

The Amateur Cinema League ia indefatigably fostering the forward march of amateur cinematography in all fields, scientific, artistic, commercial.

One of its latest communications forecasts the analysis and criticism of the work of professional cinematographers.

"So, whether a film be good or bad, as a whole, is not considered important. The place in the sun in these reviews is reserved for the erstwhile lowly cameraman, the cutters and the hitherto largely ignored technicians, and yet its originators declare this unique procedure is not followed because of contrariness or from the desire to do something different, not because of a genuine demand for exactly this sort of reviewing on the part of its readers." This referring to the readers of "Amateur Movie Makers," the organ of the League.

The professional cinematographer cannot but *welcome* this innovation and be grateful for criticism as well as praise and look forward to this closer contact with the public as a channel through which will result betterment in the making of motion pictures as a whole and a greater efficiency in enhancing their educational value.

Aside from the apecial personal and moral benefits that the professional cinematographer will derive, it is beyond question that the amateur cinematographer will ***hold his own*** in many fields of general interest.

The low cost of making amateur motion pictures will permit the accumulation of a vast amount of decumentary films, a great part of which are bound to enter the public domain.

A certain amateur is particularly interested in sports, another in aviation, another in some industry, another yet has a botanical propension, another a traveling instinct and so forth, and each one of these amateurs will take thousands of feet of real documentary pictures in all their details and with cognizance of cause and effects.

The world will know that such tremendously interesting material is available, or at least in existence and although relegated to private libraries and collections, it will be sought and found, borrowed, rented or bought from the author with all data appertaining to it and the time will come when these films will enter completely the public domain and become a thesaurus of invaluable information.

The creation of such a marvelous documentary collection, if made by professionals, would require such an investment of capital as to render it practically impossible.

Furthermore the limited number of professionals could not take care of *all the wide range of subjects.* in keeping with his personal knowledge of the particular subject in which he is interested.

This subject is so vast that it could be discussed ad infinitum. It requires very little stretch of the imagination to foresee the wonders that will be accomplished through amateur cinematogrsphy, wonders second to none, in this era of moral and practical achievements.

Simplicity and Motion Pictures

Lewis W. Physioc

A great painter once said: "*Simplicity* is equally removed from insipidity and extravagance. It is the effect of good choice, the enemy of affectation, the usual companion of grace and the general attendant on nature, especially when not vitiated by too much refinement." And John Locke, in his essay on the human understanding has pointed out how complexity of languages may convey ideas greately at variance with those conceived, inherently, in the minds of those desiring to impart them. We also recall Hamlet's suggestions to the players, all of which imply that the arts, in general and in all ages, have recognized simplicity as a desirable element.

It is not strange, therefore, that motion pictures, combining so many of the arts, should be liable to complexities and extravagances in the process of their production. In fact, this very diversity of elements rather adds to the difficulty of preserving simplicity. This is readily perceived when we begin to analyze the ramifications of picture production.

First of all, we have a very complicated and extensive business organization that fosters the art. This organization, itself, being immediately divided into two distinct, and almost independent, branches, i.e., production and exploitation; the one assuming a knowledge of the kind of pictures the public wants and the other providing how, when and where they shall receive them; whereas. in most of the other forms of art, there is considered the one, simple proposition of the conception, execution and the artist's direct submission of his work to the public or patron.

Apart from the complicated administrative department, the actual producing organization is, by no means, a simple affair. From the original story concept, transcribed by various so-called continuity writers we reach a final script that may have suffered anything from a change of name to an entirely new theme and plot construction. Then comes the influence of directorial and actorial interpretations, nor must we overlook the technical staff who embellish the mounting of the picture, to say the least of the titling and editing, and finally, the presentation. It might be worth while to consider each of these departments, in the hope of finding some posibility of simplifying the process.

The first thought should be given the story, which is, obviously, the foundation of the entire industry. At the first glance, this matter of the story should present a very simple proposition, i.e., the selection of the very best story available, and an honest effort to picturize it in the most artistic manner. Unfortunately this is not the case. There are so many elements that control the selection of a story that it has become a very serious matter.

There seem to be few people in the industry who have the judgment, the courage and authority to say whether such and such a story justifies the great expense necessary to produce it. We do not hesitate to say that it takes considerable talent to judge a story and even when this ability is vested with authority, it takes a bold conviction to assume the responsibility of the decision, and those budget sheets are enough to intimidate the bravest. It may be that this timidity is the direct cause of the present tendency to use only stories that are proven, to a certain extent, by having been previously published.

Among the various other elements, such as story committees, readers, etc., the most serious is the question as to whether the story suits the star. These considerations suggest a series of propositions that seem worthy of some study.

1st. Should authority be invested in a single mind to decide the all-important question of the story?—which suggests:
   a. Could a single mind handle the mass of material required by one of the large producing organizations?
   b. Which seems to reflect the necessity of numerous assistants, either in the form of a story committee or readers.
   c. The superior talent of these readers, or committee, is a manifest necessity, otherwise much valuable material will be sacrificed if intrusted to those who cannot appreciate story values.

2nd. How far should the above group be influenced or controlled by the administrative department—which brings up many points for study.
   a. Business ability is seldom accompanied by critical appreciation of things artistic, and vice versa.
   b. But some men cannot be persuaded that they do not know all things, and when such men are in authority, it becomes a very grave problem.
   c. Good business would seem to demand the proper heads for each department, making them responsible for results, giving them credit when successful and removing them if incompetent. The alibi system is due to not placing this responsibility and the interference of certain ones in authority.
   d. We recognize a natural desire, on the part of those footing the bills, to have something to say. It takes an unique man to trust, without question, his money with the other man's brams.

3rd. Question of published stories and originals:
   a. Is the published story always good picture material?
   b. The questionable value of high priced novels if, when they are produced in pictures, scarcely anything is left of the original story except the author's name.
   c. Could motion picture prestige be developed to such heights that publishers, contrary to the present supposition, would accept, as their index of popularity and success, a story that has been

(Continued on Page 18)

"THE STILLS MOVE THE MOVIES"

By Joseph Stillman

[*An interesting question arose with the inauguration of the still department in The American Cinematographer, the question being, who should be credited with the photographic work on the production stills that we present to our readers.*

The question that seems insignificant to the uninitiated acquires a great importance from the professional point of view.

The cinematographer in charge of a motion picture production is fully responsible for the lighting of the sets and of the subjects. He creates the attributes of the picture. Lighting, composition, beauty, grace, are dependent upon the cinematographer's artistic nature.

At the moment the still photographer enters the scene he finds all these attributes at his disposal.

On the other hand the still photographer may vary slightly the composition of the settings and completely re-arrange the composition of the characters. It is his privilege, nay, his duty to do this for the obtention of a still that carries all the artistic and other elements pertinent, especially, to a picture which is to be looked on at leisure and critically analyzed.

The cinematographer creates the ground work for the still photographer, who in turn must be capable to take advantage of it and create his own requirements.

And here arises the question of credit for the results thus obtained.

The American Cinematographer in a spirit of impartiality will hereafter mention both the cinematographer and the still photographer as co-authors of the stills that will be reproduced in its columns.

We would like to hear from our readers and our fellow cinematographers and still photographers on the merits of this subject.]—*Editorial note.*

Our still offerings on page 8 of this issue are immune from any credit controversy.

Mr. Fred A. Parrish, A.S.C., a special news cinematographer, a scenic photographer, an artist, a globe trotter and a scientist has recently returned from a jaunt to the South Seas Islands, where he has recorded not less than 25000 feet of film and over 700 still pictures.

The results obtained by Mr. Parrish are truly remarkable considering the difficulties the photographer encounters in those far away lands of difficult climates and few modern conveniences.

All the still pictures, developed on the grounds, are proof of Mr. Parrish's ability and resourcefulness in coping with difficult conditions.

Tutuila, Manua, Pango Pango, magic names of dreamland! Blue skies, calm waters, towering palm trees, hula skirts, beautiful forms, radiant smiles, life's joys, golden sunsets, enchanting melodies, dances and flowers and blessed idleness and oblivion of the exigencies of life, as most of us conceive it.

Tutuila—Manua—Pango Pango! Thank you, Fred for taking us for a while from the dullness of our everyday grind; thank you for the breath of *beauty* and of *truth* that you have brought us.

The Akeley Specialists

On the evening of September 16, the A.S.C. Akeley specialists gathered in the rooms of the Society and conducted an open meeting with Mr. Daniel B. Clark, president of the A.S.C., in the chair and many questions, both technical and of welfare were discussed in the frankest and friendliest spirit.

The Akeley camera has entered the professional production field and is there *to stay*. The truly splendid Akeley achievements which have lately graced our biggest and best productions have sanctioned the use of the Akeley "shots" as an important factor in the story-telling qualities of motion pictures.

The times are past when the Akeley was just considered a handy tool in some special cases in which the rapid movement of the subject could hardly be kept within the limited angle of the standard camera.

The Akeley today is an implement without which, a motion picture production is not complete.

The Akeley has, therefore, become a very much needed tool in the hands of cinematographer and director and its responsibilities have increased accordingly.

The Akeley camera requires a truly capable man to handle it, and the term *Specialist* has never been used more truthfully.

The Akeley specialist of today cannot give full measure of his ability, cannot carry on successfully the thousand and one details which he has to take care of without proper assistance.

The Akeley specialists have, during the past two or so years trained their own assistants. They have spent time and money to instruct them in the intricate details that have to be taken care of in order to give one hundred per cent efficiency in their work.

The Akeley assistant has become a part of the Akeley system, possessing his superior's own attributes, his own experience and the three entities—*Akeley Camera, Akeley Specialist* and *Akeley Assistant*, from a unit which cannot be disbanded without disturbing that element of security which permits the Akeley specialist to *guarantee* the results that are expected by the producer in the performance of his assignments.

These matters were discussed at length at the meeting of the Akeley specialists and the discussion was so open minded, so sincere, so constructive in all its details that it is sure to result in a better understanding of Akeley needs and Akeley importance which will make for better cooperation all around in future production activities.

John Hill
'27

In Camerafornia . . .

and News Notes of the Month

Frank Cotner, A. S. C., has just finished exteriors on the Morris Schlanck production, "The Old Code." Lillian Rich and Walter McGregor are starred. Interiors for this picture are now being photographed at the Fine Arts Studio.

* * *

John Seitz, A. S. C., has just completed the cinematography on Marion Davies' newest picture, "The Fair Co-Ed," at the M-C-M studios. Seitz is now engaged in photographing some re-takes for the special production, "The Trail of 98," on which he was chief cinematographer.

* * *

Ernest Miller, A. S. C., having finished the photography on the first James Cruze personally directed production for DeMille release, "On to Reno," starring Marie Prevost, is now shooting "Yellow Mail." Owen Rossem, also an A. S. C. member, is photographing the stills for the production.

* * *

Victor Milner, A. S. C., is busily engaged on the photography on Paramount's "Spotlight," starring Esther Ralston under the direction of Frank Tuttle.

* * *

Georges Benoit, A. S. C., is shooting the latest Ken Maynard picture for First National release. Joseph Brown is directing this story of circus life under the title of "Caravan Trail."

* * *

Frank Good, A. S. C., is in charge of the photography on the William Fox production, "Balaoo," which Richard Rosson is directing. Included in the cast are Edmund Lowe and Lelia Hyams.

* * *

George Schneiderman and Charles G. Clarke, both A. S. C. members, are associated on the camera work of the latest John Ford production at the William Fox studio. The continuity is from a Saturday Evening Post story called "Grandma Barnlie Learns Her Letters."

* * *

J. N. Gridlun, A. S. C., is shooting second camera on the J. Leo Meehan production of a Jean Stratton Porter story at the F. B. O. Studios.

* * *

Roy Hunt, A. S. C., is photographing the next Bebe Daniels' picture at the Paramount studio, which is being directed by Clarence Badger, under the title of "She's a Sheik." The Akeley camera work on this production was done by E. Burton Steene and Herman Schopp, both A. S. C. members. The company was on location for four days at Guadalupe, California, three hundred miles from Hollywood.

Karl Struss, A. S. C., is chief cinematographer on D. W. Griffith's production, "Dream of Love," now in the course of production at the United Artists studio. In the cast are Mary Philbin, Don Alvarado, and Lionel Barrymore.

* * *

Le Roy Eslick, A. S. C., is shooting the F. B. O. western feature, starring Buss Barton under the direction of Lew King.

* * *

L. W. O'Connell, A. S. C., is on location at Bellingham, Washington, where he is photographing exteriors for the William Fox studios.

* * *

Ernest Haller, A. S. C., who for several years has been located in New York City as chief cinematographer for Robert Kane productions, has just come to Hollywood. He immediately started work at the First National studio where the Robert Kane productions will henceforth be made.

* * *

Harry Davis, A. S. C., has recently returned to the Fine Arts studio from location on a Jack Padjan western feature. This picture photographed by Davis will be released through Pathe.

* * *

Le Roy Greiner, A. S. C. member and Akeley camera specialist, who has been on location with the First National unit near Sato, California, filming Milton Sills in a Peter B. Kyne story, "Valley of the Giants," was injured by a fall from a parallel. Greiner is recuperating at the Arcota Hotel, Arcota, California, and the A. S. C. extends a sincere hope for his speedy recovery.

* * *

Harry Fischbeck, A. S. C., is chief cinematographer on the next Adolphe Menjou production, "Serenade," Harry D'Arrast is directing from a continuity by Ernest Vadja.

* * *

J. Peverel Marley, A. S. C., is in charge of the photography on the screen version of the famous stage play. "Chicago," which is being produced at the DeMille studio. Phyllis Haver is starred as the famous "Roxie Hart."

* * *

Daniel B. Clark, A. S. C., head of the Tom Mix camera staff, is on location for Mix's latest western feature, "Wild Cat Law."

* * *

Harold Rosson, A. S. C., is photographing at the Paramount studio a screen version of the stage success, "Gentlemen Prefer Blondes." Mal St. Clair is directing an all star cast.

Amateur Cinematography

A Professional's Notes for Amateurs

Part XII.
By Joseph A. Dubray
A. S. C.

Astigmatism of Lenses

(Continued from September Cinematographer)

Continuing the investigation on the orthoscopy of Lenses, another form of spherical aberration presents itself, when considering oblique incident rays of light.

This aberration is called *Astigmatism.*

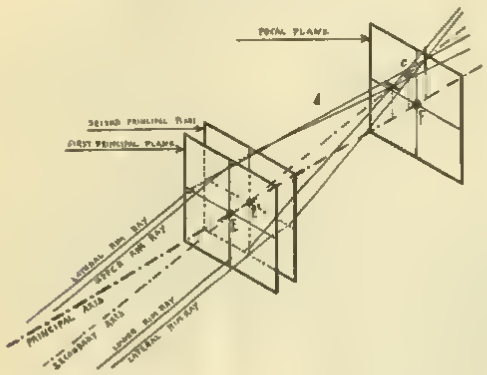


Fig. 27

The Astigmatic aberration, is represented in the above drawing, in which the lens, or system of lenses, is represented by its principal planes, corresponding to the Principal points E and E′, and by its Focal plane, located at F.

Let us consider oblique rays, incident upon the whole surface of the lens, and parallel to one Secondary Axis, which, as it has been explained, is represented by the ray incident upon the first Principal point E and emerging from the second principal point E′.

Such conglomeration of rays, form a bundle or pencil, which is fully characterized, for the purpose of the investigation, by the four rays which are called in the Fig., upper, lower and lateral rim rays.

In the investigation of the path followed by such a bundle of rays, after refraction, we must divert from the heretofore used method of studying such path in only one plane, and we must consider the path of such rays in two planes which will characterize the space in which the paths are traced.

One of these planes, shall be the plane obtained by the section of the lens in its meridian, or from pole to pole. The other plane will be a plane perpendicular to the first, and indicated by the equatorial section of the lens.

The first plane is designated as *first, meridional,* or *tangential principal plane* while the second is designated as *second, equatorial,* or *sagittal principal plane.*

Now, rays in the meridional and rays in the sagittal planes, *converge to their focus, with unequal rapidity* so in the case, as in the Figure, in which the meridional convergence is the strongest, the extreme meridional rays will meet at a point nearer the lens than the point of meeting of the extreme sagittal rays.

But, these four single rays, by no means represent all the refracted rays belonging to the bundle and when all the rays conglomerated in the conical bundle of refracted rays are considered, two *short focal lines* will be found the first laying on the Sagittal plane, the second on the Meridian plane at the two points of intersection, of the extreme rim rays.

The visible effect of this phenomenom, is that an objective uncorrected for astigmatic aberration cannot bring to a focus vertical and horizontal lines at the same time, in fact a perfect focusing of either of these will not be possible because of the formation of focal lines, instead of focal points.

It is quite evident that astigmatic aberration will be more pronounced, the more the incident rays are oblique to the axis, so it results that the term astigmatism applied to such phenomenom, is quite abritrarely used, as it would imply an equal extension of the aberration throughout the whole image surface, as is the case in images formed by cylindrical lenses. But as the terms astigmatic and *anastigmatic,* for the corrected lens, have entered the domain of commonly used exptessions for spherical lenses, we shall abide to their use in a sense in accordance with the subject of our investigation.

The accurate explanation of the causes of astigmatic aberration, involve very complex mathematical investigation, well beyond the scope of these articles.

The following diagram, which illustrates the so-called Sturm's conoid, from the drawing of Mr. Von Rohr, will

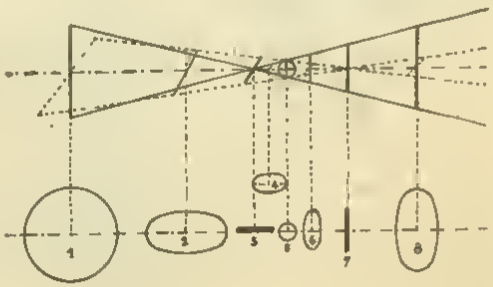


Fig. 28

(Continued on Page 16)

Kamera Komics

Origin of Hokum

Goliath of Gath had, in a loud voice, just told the Israelite army what he was going to do to it.

"What did that guy say," asked the young David of Levi McGinnis, who was watching him select some stones from the brook."

"He said he could lick our whole outfit with both hands in his pockets," replied Levi.

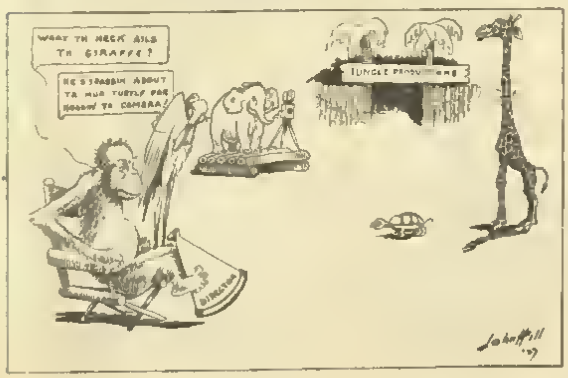
"That," rejoined David, as he fitted a boulder into his sling, "is a lot of Hollywood hokum, as I will now demonstrate to you."

* * *

An-Ak-Ron-Isms

Jonah had just been swallowed by the whale. "What makes me peevish," he remarked to himself, there being nobody else present, "is that this is a first rate movie stunt and the camera has not yet been invented. These inventors make me sick."

* * *



Temperament on the Congo

* * *

"See that guy over there with a kind of re-take expression on his face," said the stage carpenter to the cameraman.

"Sure, what's the matter with him?"

"He's the only man on the lot who is never 'in conference'."

* * *

Assistant Director—"What does it mean to be 'born with two strikes' on you?"

Prop Man—"The same as a guy being 'between pictures' most of the time."

* * *

Director—"What's the difference between white oats and black oats?"

Star—"I don't know. What is the difference?"

Director—"That shows that you don't know your oats."

A Terrible Dream

The absent minded director had arrived in heaven just as a choir of angels began to put on a pageant.

"This will never do! Hey! Who sent all these extras up here without makeup! Take 'em out and bob their hair! This looks like an old-time camp meeting! Run 'em all into the wardrobe and put short skirts on 'em! What's the idea of all the yodeling! Is this a hair tonic publicity stunt or a motion picture! Where's the cameraman! Tell him to set up over there in the shadow of that harp factory! We can't shoot with all these high lights on the golden streets! Where's my chair! Who is that old guy with the whiskers! Tell him to get off the set! Call the star and tell the "juice gang" I won't need 'em today! This light is terrific! Where's the script girl! This service is lousy! Where's my assistant? Where's my chair? When do we shoot? What's the scene? For the love of Steve and Rosie what studio is this anyway?"

Attendant—"This is heaven, sir."

Director—"Any studios, picture shows, pepper trees, oil stations, or branch banks around here?"

Attendant—"This is heaven, sir."

Director—"Call my car. I'm goin' back to Hollywood!"

* * *

True Story

Lensie MacShutter, chief cinematographer for the Ruin-Art Film Corp., was fond of clams. Also Lensie had just been married, and he was absent minded, too. Likewise Lensie had an irritating habit of bringing yaps home to dinner without informing his wife in advance.

One night he brought his old friend, Tripod O'Krank. Mrs. MacShutter called Lensie into the kitchen and remarked casually:

"I bought only clams enough to serve two. I won't eat any and don't you dare to ask Mr. O'Krank to take a second helping."

"Leave it to me," said Lensie confidently.

The clams were good and both camera-hounds quickly lapped them up.

"Have some more clams," cheerfully chortled Lensie.

"Just then O'Krank started, looked from host to hostess, turned red and declined.

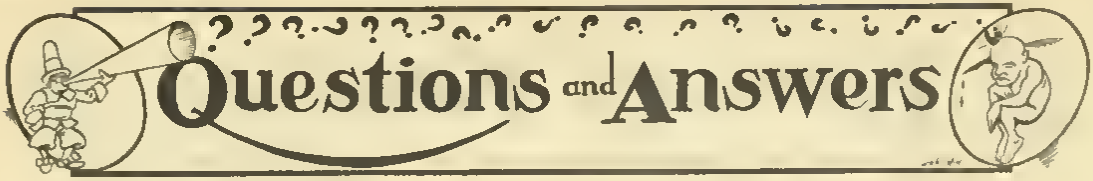
"Aw, come on," persisted Lensie, "let Mrs. MacShutter serve you some more."

Once more Tripod started, looked foolish and positively declined.

The incident passed. Later when the guest had departed Mrs. MacShutter said:

"Lensie, you're impossible."

(Continued on Page 23)



QUESTION—What is the chemical action of the ingredients used in mixing a developer?

ANSWER—The action of a developing solution, is to reduce into metallic silver, the silver compounds incorporated in the emulsion, which reduction is but a chemical change started by the rather mysterious action of LIGHT upon the emulsion itself.

A developing solution is composed of: First, A Reducing Agent. Second, An Alkali. Third, A Restrainer.

Reducing agents such as Pyro, Methol, Hydroquinone, Glycin, etc., have the power of reducing the silver compounds according and in proportion to the strength of the light that has formed the latent image in the emulsion.

The reducing agents are quite easy to control in their action, but as most of them do not combine with Oxygen with the readiness which is essential, they would develop exceedingly slowly if this combination with Oxygen could not be stimulated by the addition of an Alkali.

Sodium Carbonate is the Alkali most used for this purpose, and the speed of the developer is therefore increased with the increase of the amount of Alkali used.

The use of a Restrainer such as Potassium Bromide, checks so to speak the tendency of Reducer and Alkali to reduce the silver compound all over the surface. The Restrainer renders thus the reducing agent more selective and permits the use of greater quantities of the Alkali.

A solution thus compounded acts as a perfect developer, but its keeping qualities are very limited. Such solution is Avid of Oxygen and in the absorption of this element, oxidizes rapidly, becoming discolored and badly staining the emulsion.

The addition of Sodium Salphite or of Bisulphites or Metabisulphites of Sodium, increases the keeping qualities of the solution and these chemicals are therefore called Preservatives.

* * *

QUESTION—How many different makes of 16 mm. film are now available?

ANSWER.—The Cine-Kodak Safety Film. This is the original 16 mm. film of the reversible type.

The Du Pont-Pathe Co. furnishes a 16 mm. reversible and also a 16 mm. negative and corresponding positive films.

The Agfa Co. of Germany has placed on the market a superspeed 16 mm. negative and corresponding positive.

The Du Pont and Agfa stocks furnished in one negative and one positive stocks, are finished in the same manner as the standard 35 mm. film.

* * *

QUESTION—Will any film cement splice 16 mm. motion picture film?

ANSWER.—No. The 16 mm. film being of an Acetate base, it is best to use cements which are especially prepared for this film. Such cements are the blue label Bell & Howell and the Kodascope manufactured by the Eastman Kodak Co.

* * *

QUESTION—If I wish to have the Laboratory finish my film without exposure correction—that I may better judge my ability in photographing—how shall I mark the yellow carton?

ANSWER.—Merely note on box "PRINT NORMAL." The film will then be evenly treated in the finishing work. A definite check is thus provided.

QUESTION—What is the chemical called "Hypo," and how does it fix a film?"

ANSWER.—Hypo is the common name given to the Hyposulphite of Sode or Sodium Thiosulphate, whose atomic formula is $Na_2 S_2 O_3$.

Its solution has the power to completely dissolve the silver compound (Silver bromide), which remains unreduced after development in those parts of the film which have received the least light, leaving untouched the black reduced silver forming the image.

This unreduced silver bromide, if not destroyed, would be reduced to metallic silver when exposed to light, the whole emulsion would become black, and the image destroyed.

* * *

QUESTION—How were the trick scenes in the "King of Kings" executed?

ANSWER.—The so-called "TRICK SHOTS" question has always puzzled the non-professional and it has never been satisfactorily answered, because the trick work is an entirely individual endeavor.

Take a great deal of scientific knowledge of photography, mix with a good dose of mechanical inclination, add a thorough spirit of adaptation to circumstances, sprinkle the whole with patience and stir with ingenuity and inventive genius.

This formula you can adapt to your particular wants.

* * *

QUESTION—What is the difference between a tinted and a toned film?

ANSWER.—TINTING is a physical process by which the emulsion of the film is tinted in any desired colour, by simple immersion in the solution of a dye.

TONING is a chemical process by which the black metallic silver deposit that forms the image on the film is converted into a colored one.

The silver image is bleached by a ferricyanide solution and is then transferred to the dyeing solution, or the dye is mordanted into the bleached image.

Several processes for toning are in use, slightly different in manipulation but all based on the same principle.

* * *

QUESTION—Why is it necessary to have a focusing mount on F.1.8 lens? Why can't it be just universal focus as with the F.3.5?

ANSWER.—Physical Laws prove that speed i.e., larger aperture of a lens, can not be obtained without sacrificing depth of focus.

When focusing at infinity, it is found that, without altering the focus, a nearer object is still sufficiently sharp for all photographic purposes. The distance of this nearer point from the camera is called the HYPERFOCAL DISTANCE.

Similarly, there is always a near and far distance at which the image can be considered to be in focus, for any given distance from the camera.

The limit of depth of focus, becomes smaller, the greater is the aperture of the lens.

An F.3.5. one inch lens, for instance, focused at 8 feet will form a sharp image from about 4 feet up to 75 feet while an F.1.8 lens, also focused at 8 feet will prove to be sharp only from about 5 to 14 feet.

Hence the necessity of more critically focusing when using a wide aperture lens than with a lens possessing less speed.

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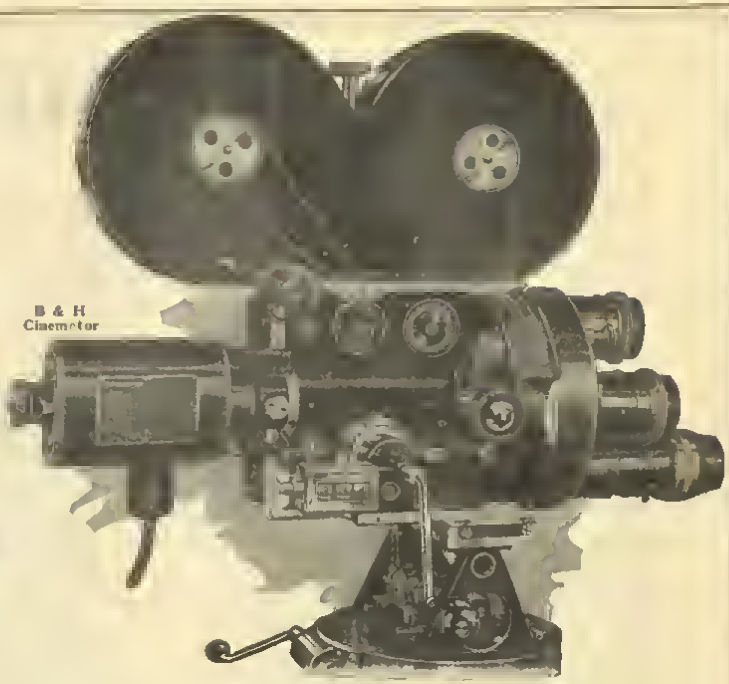

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The Cinemotor is a useful piece of equipment. By simply manipulating a control knob, speeds ranging from 2 to 20 exposures per second (slow to fast, or fast to slow) are at instant command of the cinematographer. Hand cranking, vibration, and the variability of human operation are entirely eliminated.

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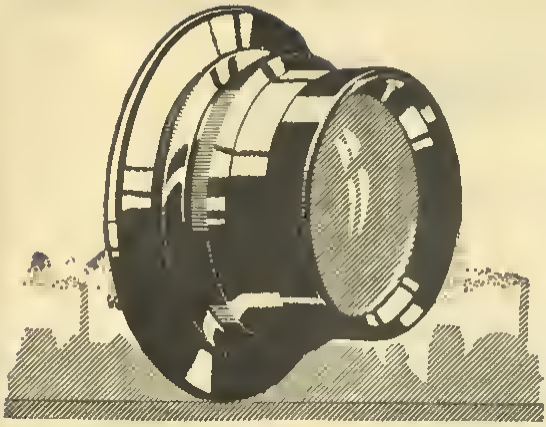

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Amateur Cinematography

(Continued from Page 10)

give the reader a sufficiently clear conception of the path followed by astigmatic bundles of rays, at their emergence from the lens.

The lower diagram, serves to illustrate the different sections of the bundle, perpendicular to the section corresponding to the plane of the paper.

At 1, the rays emerging from the lens give a circular section in the sagittal plane. Following their path, we find that at 2, the circular section, has taken an eliptical form, whose major axis lies in the sagittal plane. As we follow the light path, the minor axis becomes smaller and smaller until it is reduced to a point, at 3, where all the rays of the pencil, pass through a short *focal line,* lying in the Sagittal plane. From this, the eliptical form is again resumed by the pencil, until it reaches a minimum contraction, at where the section is a circle.

This area corresponds to the area marked C in Fig. 27, and represents the *disc of least confusion* where the astigmatic differences are equally distributed and where therefore the best obtainable sharpness of the image as a whole, is given.

Still further, the pencil resumes the eliptical shape, as at 5, but this time its major axis lies in the Meridional plane. At the place where the Sagittal rays meet, at 6, another short focal line is formed, this time lying in the Meridional plane, that is to say, perpendicular to the first focal line, while both lines are perpendicular to the Axis.

The eliptical form is continued thereon, keeping its major axis in the Meridional plane.

It is obvious that upon the size of the *disc of confusion;* depends the usefulnes of the lens for photographic purposes.

The means by which the size of the disk can be reduced to a sufficient extent have been thoroughly investigated and it was found that the use of a diaphragm, would correct the astigmatic aberration, as it corrects the spherical, with the difference that not only the size of the diapbragm has an influence on this aberration, but also *its posstion,* in respect to the lens.

Investigation, has proven that by placing a diaphragm in front of the lens, and by moving it to and fro, *the position of the disc of confusion is also altered,* and a position of the diaphragm will be found where *the disc of confusion can be practically made to coincide with the focal plane of the lens,* while the size of the diaphragm, controls the size of the disc.

Astigmatic aberration is thus remedied to all intents and purposes.

But another form of aberration, called *distortion,* presents itself with the use of diaphragms.

If the diaphragm is placed *in front* of the lens, or combination of lenses, the image of an object having, say,

a square surface, will present a marked *"barrel shaped"* distorsion along its edges. In other words, the image instead of being a perfect square corresponding to the object, will be a square whose sides buldge outwardly.

This distortion, is due to the fact that the magnification ratio, of the image in respect to the object, is unequal throughout the surface, and its less at the corners than over the rest of the surface.

A phenomenon similar but in the opposite direction, takes place when the diaphragm is placed behind the lens. In such case the ratio of magnification is still unequal, but in a sense inverse to the former. The corners will be unduly magnified and a *"cushion shaped"* image will be the distorted result.

The remedy for this is to use *two lenses* or two combinations of lenses placed at a certain distance from each other, and to *place the diaphragm at a calculated distance between them.*

This is done in all modern photographic lenses.

And here we enter into the investigation of compound lenses. But before starting such discussion, we shall consider another form of aberration, which is of the utmost importance, the *"chromatic aberration."*

Up to this point, we have always taken into consideration rays of *monochromatic* light, or light of one colour only.

The very complex composition of white light, brings forth a series of phenomena, which present one of the most fascinating branches of optics, and whose true knowledge is essential to whoever is interested in the Art of Cinematography.

(To be Continued Next Month)

Our Special Process Group

A meeting of trick and special process cinematographers was held in the rooms of the A.S.C. on the evening of September 23rd.

Technical matters of importance were discussed with a spirit of entbusiasm which is proof of the intense interest this branch of the A.S.C. takes in the accomplishment of its assignments.

The scientific research which is a consequence of the varied problems the special process cinematographer is called to solve, is of great interest and aid to the cinematographer and to the producer and ultimately is of great benefit to the public at large.

The A.S.C. regrets that as the present issue of the CINEMATOGRAPHER is, at this writing, on its way to press, it cannot enter into complete details of the achievements of this interesting group of cinematographers, but it will do so extensively in the future and, if possible, the transactions of the special process men will be made one of our magazine's outstanding features.

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Simplicity and Motion Pictures

(Continued from Page 6)

proven by motion picture production.

4th. Whether we shall fit the story to the star or the star to the story.

5th. Shall we continue the effort to "put over" admittedly weak stories by extravagant production values

6th. Shall the director be the arbiter supreme when all the others have agreed on the story?

In reviewing these elements concerned with the story alone, we begin to despair of simplifying picture making. But it can and will be done.

From the directorial viewpoint, we observe a tendency towards involution in the multiplicity of camera angles. In the early days of picture production, the director considered everything from the parallel point of sight of the audience and was very fastidious as to the geography of his set and the direction of entrances and exits, in sequential cutting. This method seems to have very little place in the present day technique and has been succeeded by the idea of playing everything from the point of vision of the actors, which entails such a diversity of angles as to make each cut appear an entirely different setting and also having the effect of moving the audience rather than moving the actors.

This is not only fatiguing to the auditor but makes it difficult to establish positions in his mind by which he builds up the continuity of the various sequences. This idea was fostered by a desire to furnish variety in the scenic values, which may be accomplished but certainly at the cost of simplicity and smoothness of continuity. And we believe it is now persisted in more through the fear of being considered antiquated in technique. But it must be remembered that there are certain laws of technique that are so basic and inviolable that they cannot be sacrificed to modern ideas.

Another danger to fluency is the abuse of the exaggerated sized individual close-up. We know that it is a great temptation to play up a beautiful subject, but there is a limit, both as to size and frequency of its use; when too large, even when taken with a long focus lens, feminine delicacy is destroyed, grossness and distortion discredits the subject, and if it is allowed to run too long, or is used too frequently, there is a positive distraction from the theme, in general, and the question immediately arises as to the purpose of the photo-play, whether it is the exploitation of individual beauty and personality, or the use of these natural gifts to illustrate a story and make the characters live in the hearts and minds of the audience.

If the latter is desired, then the close-up should be an expedient rather than a feature, and requires great judgmnt on the part of the director and should be a bid for something more artistic and original than that so frequently shown in the hackneyed curriculum of "long shot," "medium shot" and "close-up."

(Continued on Page 24)

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THE MANUFACTURE OF CARBONS

By Fred McBan, Physicist, Creco Research Dept.
Exclusive for American Society of Cinematographers

In motion picture studio language, one continually hears the expression "that lamp needs more coal," meaning carbon, thereby creating the impression that carbons, as used in the lighting apparatus for photography are derived from coal, and in general, or figure of speech way, the kind we use for domestic purposes.

However, the majority of us seriously concerned in the making of motion pictures, realize what we owe to coal. When we burn coal, we are setting free heat that has its origin in the sun. The coal tar scale is the largest and longest of the chemical tree*, that is, insofar as scientific knowledge is aware. The basic or fundamental gas derived from coal is known as methane, in chemical language, CH_4**.

From methane, is derived a long series of hydrocarbons, chemical HC, plus, from which are extracted the eosines, erythrosures, and ayalines so necessary in the development, color treatment, and sensitizing of motion picture film.

From all of this, it follows that we owe quite a lot to coal, but insofar as affecting the dye situation, the output is far in excess of any demands that could be made for motion picture purposes. However, let us continue with the parent subject, that of the manufacture of carbons.

The old method of making material for carbons was costly, and out of all proportion to the demand. The manufacturers of the same used to gather the hardest kind of wood, from which the carbons were to be made in large bundles, or heaps, leaving a flue on the outside, and at the bottom of the pile or mass, thence from the center, through the top, then after covering the entire heap with earth, and leaving these openings or flues open sufficiently to carry away through the top the hydrocarbons and gasses, the mass was fired and burned, the resultant mass being charcoal carbon.

Today, by scientific application, there is nothing lost or wasted that we are aware of. By putting the material in a closed retort, which looks and acts to all intents and purposes like a boiler, and applying the heat from the outside, the fumes given off by the mass inside the boiler are run off and saved through cooling pipes, operated at a very low temperature, thus causing a condencing process. From this process, we get wood alcohol, acetate lime, acetic acid, or acid of vinegar, all necessary for photographic purposes; pine tars, turpentine, oils, and some of the dyes for film sensitizing purposes.

The carbon residue that remains in the retort after the various other chemicals are saved, is pulverized and

(Continued on Page 21)

DO YOU KNOW YOUR MOVIES?

Mr. Harvey Gaussman, West Coast representative of *The Film Daily*, contributes these interesting facts of our beloved industry, compiled from The Film Year Book:

A daring producer took a chance on the first big special, "The Great Train Robbery," which was 800 feet long and ran ten minutes. Today features run as long as 12,000 feet and constitute a whole evening's entertainment.

* * *

Is the motion picture industry solid financially? In recent Wall Street flurries picture issues remained firm. Half a dozen of the larger companies have 11,518 stockholders owning 3,554,115 shares.

* * *

Big city first-run houses fill their seats as high as 18 times per week.

* * *

The weekly attendance for the average house in a town of less than 1500 population is 350. Most of these have showings only two nights a week and many only once. The average attendance in a town of 5000 is 3,800, and in a city of 25,000 the attendance averages 14,800.

* * *

For the year 1925 over 235,000,000 feet of finished motion pictures were sent abroad. For 1926, up to July 1, the figures show about 107,000,000 feet. In 1913 total exports of this product stood at about 32,000,000 feet. In 1924 this had expanded to 178,000,000 feet.

* * *

Europe has always been our best customer for motion pictures; in 1913 she took about 17,000,000 feet, or a little over 50 per cent of our total exports for that year. This increased to 86,000,000 feet in 1925.

* * *

Latin-America and the Far East have shown a more phenomenal growth proportionately than Europe. Export films to the former rose from 1,500,000 feet in 1913 to over 63,000,000 in 1925. The Far East rose from 4,500,000 feet in 1913 to 54,000,000 feet in 1925.

* * *

Thomas Edison invested $24,000 in his motion picture process. In 1926 the American motion picture investment was $1,500,000,000.

* * *

Ten years ago the Broadway picture houses charged 25 cents admission and elsewhere 5 and 10 cents. The range of prices on Broadway today is from 50 cents to $2.20 top for specials.

* * *

A few salaries in the industry are among the largest in any profession. There are several actors and directors whose annual incomes exceed $500,000.

* * *

The average price of picture theatre admissions is around 28 cents. In the larger cities it averages about 35 cents.

THE MARSHUTZ COMPANY EXPANDS

A new department, that of photographic apparatus and supplies, has been added by the well known Marshutz Optical Co., of Los Angeles, established in 1887. The Marshutz store on West Sixth Street now comprises, in addition to the widely known eye examination and optical service, a department for the hard-of-hearing, featuring the new electric Acousticon, and the new photo section. Under the supervision of Frank M. Luce, photographic specialist, the new department will offer the best in American kodaks and German cameras, including the famous Zeiss-Ica line. A complete stock of Bell & Howell and Eastman motion picture equipment for the amateur will be offered.

E. Burton Steene, A. S. C. member and Akeley camera specialist, has just finished the Akeley aerial work on "We're In the Air Now" which features the comedy team, Wallace Beery and Raymond Hatton. Harry Perry, A. S. C., was chief cinematographer on this production which was directed by Frank Strayer. Steene will start soon on Paramount's "Legion of the Condemned," which will be directed by William Wellman. Henry Gerrard, A. S. C., will be chief cinematographer of the production. Gary Cooper will be starred.

* * *

Dewey Wrigley, A. S. C., is chief cinematographer on Franklyn Pangborn's first starring picture, "My Friend From India," now in the course of production at the Metropolitan studio, E. Mason Hooper directing.

* * *

Virgil Miller, A. S. C., is shooting the Henry McRae production, "Outlaws," in which Rex, the wild horse, is used. In the cast are Kathleen Collins, J. P. McGowan, William Nastell and John Hall.

A grove of Redwood trees, towering two hundred and fifty feet into the air and completely shutting off the sunlight except for vivid "pools" of light here and there, is about the trickiest place in the world to take a moving picture camera.

This is the opinion of T. D. McCord, chief cinematographer on Milton Sills' "The Valley of the Giants." The First National company is now on location in Northern California securing the scenes which Peter B. Kyne put into his famous story of that name.

"Because of the contrast in the high lights and deep shadows in the groves," the camera expert explains, "it is necessary to use artificial lighting, even on the brightest days."

Huge generators and powerful lights were taken to the location from the studio to get the proper effects in these cathedral-like groves, and as a result the forest scenes in "The Valley of the Giants" are said to be unusually beautiful.

The Manufacture of Carbons

(Continued from Page 19)

made into a paste by the application of steam. Then by hydraulic presure, it is molded into shape.

The core, or center of the carbons from which we get its supposedly actinic value, is put in, after the molding process, and is composed of the necessary chemicals for color values, such as thorium, in mineral salt form, with fulminates of silver and silicons, usually acting as binding agents.

The splintering and cracking usually found in carbons is in the majority of cases caused by impurities in the binding agents and cores, which often contain a percentage of quartz in minute form. When examined under the microscope these minute particles of quartz are seen to explode and liquify, when they reach the boiling or heat point of the chemical core, contained in the carbon.

* Atoms of Carbon, have the power to unite with other atoms of Carbon, and to thus form stable nuclei, to an almost unlimited extent.
Atoms of other elements, in turn, unite with these nuclei, to form different compounds.
This explains the multitude of existing Carbon compounds.
** Methene, or marsh-gas

John Mescall, A. S. C., Elmer Clifton's chief cinematographer on "The Wreck of the Hesperus," is receiving congratulations from every side on his beautiful marine photography for the picture, according to word from the DeMille studio where the Harry Carr-John Farrow screen version of Longfellow's poem is being edited for Pathe release. The quality and composition of the marine scenes of the production are said to surpass anything of their nature ever before to reach the screen. Mescall was assisted on the composition by J. Duncan Gleason, one of America's most famous painters of marine studies.

* * *

E. L. McManigal, A. S. C., has completed the aerial photography on the William Fox release, "Pajamas" starring Olive Borden. It is interesting to recall that in January, 1926, McManigal signed Art Goebel, winner of the trans-Pacific-Hawaiian flight, to a three year contract for Pathe release. However, after the signing of the contract, Pathe, through a merger, was unable to use the picture. Both Goebel and McManigal discarded the contract by mutual agreement. With announcement of Goebel as the winner of the Dole prize, McManigal again thought of the contract. Finding it, McManigal approached Goebel, who consented to again take it up. Goebel and McManigal now plan to produce another aerial picture together, in which many daring stunts will be depicted.

* * *

John S. Stumar, A. S. C., is beginning the cinematography on Universal's latest mystery story entitled "13 Washington Square" under the direction of Mel Brown. This picture will be the first one at Universal where incandescent lights will be used.

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PUTTING RICHNESS INTO THE PHOTOPLAY

(Continued from Page 4)

which the old type of film destroyed. It gives you the blue of the sky and the white of the clouds in the proper graduation, without making them a paper white. It gives you reds in their proper graduation without making them black. It keeps the relative qualities of yellows and greens. The difference is not perhaps essential to the mere telling of the story, but it makes the picture in every way a finer and more dramatic thing to look at. It keeps the natural lustre and luminosity of things, and it can (by filters) exaggerate to the heart's content all the natural preference of the human eye (reds for example); it gives the velvet quality of things; it gives something more of the depth of things; it transcribes the natural texture of faces (without making the red in the face a dirty black), and so it keeps a great deal of the natural character which the heavy lighting and heavy make-up, necessary to the other kind of film, destroyed. The old-type film, in fact, was color-blind and saw no better and no lovelier than a color-blind person might ordinarily see. This other corrects that. Alice Joyce, I am told, has red hair in civilian life; on the old film it is black. Now I for one feel I have been deceived in the matter of Alice Joyce. If a film can give me in monochrome a hint of the loveliness of red hair, I want it. I want in fact as much of the variety of things seen as the camera can give me; it will make me "feel good." I want the scarlet carpets and the easy lounges of things seen.

Why the Inertia?

This matter of panchromatic I give as a guide to the possible extras in movie production, and as a hint of the inertia of the producers in adding real richness to their photoplays. Moana was produced entirely in panchromatic three years ago. Moana may not have had the dramatic clash of forces in it which is necessary to a picture for that world public of ours, but it had loveliness. Ir had the bronze values of its South Sea islanders recorded beautifully; and the natural colors and surfaces of the palms, the coral beach, and the sea of the South Sea Islands, were so graduated in their proper relations, that you smelt the very air the islanders breathed. Yet three years after, in Aloma of the South Seas, the panchromatic film was mixed with the old film; the exteriors were shot in one, the interiors in another, and the bronzes were one moment a soft and intimate bronze and the next a lustreless gray. Beau Geste was similarly mixed. After the visual grandeir of human faces in the desert (shot on Panchromatic) one returned to the simpering lollipop studio faces of the final garden scene. People don't notice these things. Ask them if they ever notice the uniformed usher at the Capitol. They don't; they simply sense the "extra" subconsciously and "feel good."

There are, I know, certain difficulties involved, and I would not minimize them. There were for a time reasonable fears about the keeping of Panchromatic, and the Eastman people who are responsible were themselves terribly slow in pmmoting the film in the world of cinema. Again, the use of panchromatic in interior work would involve changes in the system of lighting, and some experiment with softer lights and proper filters. But not even these difficulties fully excuse the industry's blindness to Panchromatic. I am convinced that if producers showed half the bravery and half the eagerness in making things photographically better that they show in improving theatres and embellishing pmlogues, the development would have been half a dozen times faster. Till Flaherty made Moana on Panchromatic in South Sea temperature, nobody knew (not even the Eastman people) that such a thing was possible; nobody had had the courage or the eagerness to investigate.

I do not bowever blame the producers, for I blame them but partly. Producers are business men and cannot themselves be expected to keep up with every development of film, camera, lighting, and the million and one other aspects of cinema production. But it seems that there is no adequate mechanism in the industry for keeping them informed. The producers did not realize the panchromatic values, and there were none in the industry to yell for them. The directors and the cameramen whose proper business it was were almost as slow, and save in one or two of Griffith's films (on the word of his cameraman) panchromatic was for a while a blue-eyed waif whom no one appreciated. The first reason is that the directors and the cameramen (with certain exceptions) are themselves not very much interested in the subtler photographic values, and are altogether too easily satisfied with themselves and their work. The second and more penetrating reason is that tbere is an inertia and a doubt in tbe industry which makes everyone afraid of his neighbor, secretly nervous of himself, and adventurous in nothing. People are scared of bucking the machine and being taken for nuts (there are blown-up pay checks and gimcrack reputations at stake) and in matters pbotograpbic as in most, they take off their straws on the 15th of September.

I am going to deduce a generalization from all this. There are very few directors who feel cinema as cinema, and appreciate the richness of visual effect that is possible in cinema. The exceptions I have named in previous articles, and I have respect for them; but in tbe main, directors have the pictographic sense and that only. They tell their story obviously without, seemingly, any great realization of possible embellishments.

King Gray, A. S. C., has journeyed to Montreal, Canada, with a William Fox company to sboot exteriors.

* * *

Ira Morgan, A. S. C., chief cinematographer on William Haines' next picture for M-G-M, has just returned from West Point where cadet scenes were taken for the production.

THE EYEMO IN OLD MEXICO

During his recent tour of Old Mexico with his wife, Billie Dove, Director Irvine Willat took one of Bell & Howell's Eyemo cameras along to shoot the scenery. As he desired to get into some of the pictures he broke in a little Mexican boy as cameraman and, so perfectly did the

little camera work that he succeeded in getting more than two hundred shots without a bad picture. The still herewith snapped by Miss Dove shows Director Willat coaching his youthful cinematographer. The location is the famous pyramid, Chitchen Itza.

Table of Exposures

Arranged for Convenience of Users of Du Pont-Pathe 16 mm. Negative Film.

The accompanying table of lens apertures is based on exposures necessary for subjects in the open with no great masses of shadow or dark objects. This table, together with the accompanying suggestions and instructions, is released through Smith & Aller, West Coast distributors of Du Pont-Pathe 16 mm. Negative Films, 1056 North Cahuenga Avenue, Hollywood:

Month	Weather	11 am to 1 pm	10-11 am and 1-2 pm	8-10 am and 2-3 pm	8-9 am and 3-4 pm	7-8 am and 4-5 pm	6-7 am and 5-6 pm	5-6 am and 6-7 pm
Jan Nov Dec.	Bright Sun	11	11	8	4.5	3.5	2.5	
	Hazy Sun	8	5.6	4.5	4.5	5.5	2.5	
	Dull	5.5	4.5	4.5	5.5	2.5	1.8	
	Very Dull	4.5	4.5	5.5	2.5	2.5		
Feb Oct.	Bright Sun	15	11	8	5.6	4.5	5.5	2.5
	Hazy Sun	11	8	5.5	4.5	5.5	2.5	
	Dull	8	5.6	4.5	3.5	2.5	2.5	
	Very Dull	4.5	4.5	5.5	2.5	2.5		
Mar Apr Sept.	Bright Sun	15	15	11	8	5.6	4.5	3.5
	Hazy Sun	11	11	8	5.6	4.5	3.5	2.5
	Dull	8	8	5.6	5.5	4.5	3.5	2.5
	Very Dull	4.5	4.5	4.5	4.5	5.5	2.5	
May June July Aug	Bright Sun	16	16	11	11	8	5.5	4.5
	Hazy Sun	11	11	11	8	8	5.6	4.5
	Dull	8	8	5.6	5.6	4.5	3.5	2.5
	Very Dull	5.6	4.5	4.5	4.5	5.5	2.5	2.5

Modifications of these apertures for different subjects are as follows:

(a) Back-lighted subjects (i. e., camera facing shadows). Buildings. Close-ups of persons. Increase stop one point.

(b) Full-lighted subjects. Landscapes with heavy foliage in foreground. Dark buildings. Groups in shade. Increase stop one and one-half points.

(c) Large close-ups of persons in shade. Dark nearby objects occupying a large portion of the picture. Increase stop two points.

(d) Interior woodland scenes where little if any skylight gets through. Deep ravines, etc. Increase stop three points.

(e) Open landscape with *no* foreground. Rivera. Lakes. Light colored objects. Decrease stop one point.

(f) Seashore views. Snow scenes. Distant landscapes in which aerial haze is usually present. Decrease stop two points. It is advisable to use a K 2 filter on such scenes. When filter is used divide the normal exposure by 1.4 to ascertain proper filter exposure.

Don't panoram rapidly.

Don't make long shots when atmosphere is hazy.

Don't make back-lighted scenes of people without a reflector to illuminate the faces—this is very important when women wear large hats.

Don't have figures too far from camera if you wish to distinguish them.

TRUE STORY

(Continued from Page 11)

"I knew I was something," cheerfully replied Lensie, "and I guess that's it, but how'd you guess it?"

"Didn't I tell you not to ask Mr. O'Krank for a second helping of clams?"

"Gee, Honey, I clean forgot."

"Forgot, nothing. Didn't I kick you under the table twice?"

"You didn't kick *me*," said Lensie.

* * *

Stranger on set passing between the camera and the action—"Don't mind me, I'm the guy who occupies the place on earth that rightfully belongs to the jimpson weed."

The Movie Dollar

Admission returns in 1925	$650,000,000
Theatre seating capacity in U. S.	18,500,000
Film footage exported in 1925	235,000,000
Net earnings of 10 producers in 1925	24,115,000
Annual film export business	35,000,000
Individuals owning film stock	50,000
Hollywood weekly studio payroll	1,750,000
Number of million dollar type theatres	500
Film stock shares traded in (1925) latest returns	5,005,400

Simplicity and Motion Pictures

(Continued from Page 18)

For the past several years the producers have endeavored to startle the public with scenic effects. There are several reasons for questioning the value of this element in picture making. Primarily, these effects are very costly, secondly, and most vitally, if the story and the acting are strong enough to engage the audience, elaboration of the settings, by this very fact, cannot be given the attention that such a display might merit. If there is no story, people will not be content to look at sets. They do not realize what they cost or what they represent as works of art. Most people, outside of Hollywood do not even know that they are built for their special benefit.

Much may be said about lighting and composition, two important elements in picture making and which are sometimes over-wrought. We are accustomed to see, in nature, objects lighted from a single source of light—the sun, the moon, a window, a doorway, or chandelier, and except in imaginative, fantastic creations, we endeavor to imitate natural effects. We observe, also, that good decorators avoid too general an illumination and work for striking effects from beautiful lamps properly placed, forcing attention on certain points of interest and vignetting the light away into mysterious, shadowy corners. Vageries in lighting, as well as in the drama, excite the imagination, and mystery is the most stimulating element in the arts. Architecture is founded on the effect of beautiful cast-shadows, by the arrangement of the projecting parts of the building.

In motion pictures, however, we are inclined to stray from this simple principle, and seem to think it necessary to crowd the sets with an excess of light from all directions, which means a multiplicity of values, an overlapping confusion of the shadows, destroying the modeling of objects of interest and flatening the fields of perspective. Even on exteriors, we employ great batteries of powerful reflectors, and even go so far as to carry huge generating sets and artificial lights which not only destroy the beautiful effects of natural shadows but complicate the system beyond excuse. How often do we see massive sets redundant with polychrome ornamentation, the same extravagance in the furnishings, crowds of people, in varigated costumes, assembled in the furnishings, crowds of people, in varigated costumes, assembled without any thought of grouping, and the whole unhappy rococo further disorganized by fiat, general, over-illumination.

We acknowledge, howere, a commendable effort on the part of the cinematographers towards the simplifying of their part of the process, as evidenced in some recent innovations, i.e., the panchromatic film, superior lenses, which provide a greater scope and permit of much simpler methods of lighting and all of which must, ultimately make for economy.

Titling a picture is, or should be, an important art. We often see a title cleverly worded and well placed that illumines a vague spot in the story, enhancing the continuity, forcing a vital point and generally simplifying the effort of the audience to follow the theme: but we just as frequently see an independent literary display that appears to have gotten mixed up with the wrong picture. Those, also, that laboriously explain what is so obvious in the action as to need no qualifying and, worst of all, those that tip off an incident that might carry great dramatic force, if left for a while, in a little mystery.

The editing of a picture should be a simple matter, but, as practiced today, it is a very complicated and difficult department. It is needless to say that the footage, at present deemed necessary, in producing a picture, makes the cutting anything but a simple process. This department has developed a group of very clever people, who, we are inclined to believe, are somewhat undervalued. How often hav they brought order out of a chaotic mess. But what must be the result if we place these miles of film into the hands of one devoid of all dramatic instincts or knowledge of story construction?—we fear, then, for our desired element—simplicity.

We dare say very little about the presentation because we encroach upon a department that is almost independent of production: so independent, in fact, that those interested in the artistic and technical elements of picture making have very little influence, when it comes to suggesting anything that might simplify that branch of the art. Each exhibitor honestly believes that he has the best screen, projecting machine and operator, but for years has given very little encouragement to those who have worked for that very desirable element—standardization of projection.

We make no comment on prologues of dancing girls, music, etc., we presume the public like them. It is also useless to mention the difficulties in the design of large theaters, because it is questionable whether any but those trained in the art are annoyed by the side seats, of a great wide theater, where the picture is badly distorted; or those close to the screen that exagerate the grain of the emulsion and other imperfections. And frequently we find large theaters so illuminated that we are ever conscious of the white screen while the picture is being projected.

Simplicity, in any form of art, is not an easy matter. It requires much training to discern it and greater ability to execute it. As an example, there is scarcely anything simpler than the lines of a violin, but we know of nothing more difficult to draw. William Chase, in illustrating this point of simplicity, fascinated his class by describing to them the manner in which Sargent painted his portrait. Chase wore a characteristic black ribbon attached to his glasses, and Sargent erased it many times before it was satisfactory; it was as much a part of Chase as his beard and shaggy brows, and required a single stroke of the brush to represent it,—a very simple operation but very difficult.

Makers of motion pictures will eventually learn the value of this element, for all the arts have gone through the same complicated rudimentum. English literature, at the close of the Restoration period was supposed to have been at the pinnacle of development, but then there came Addison, Steele, Goldsmith and other literary iconoclasts

who ignored the precepts of erudition and pedantry, avoiding the tiresome interpolations of Greek and Latin and ponderous displays of rhetoric, and set the traditional literati agbast at their audacious independence. What was the result—people read, who had never read before, and were delighted by this graceful, beautiful simplicity, —this new technique that unfolded the theme with the directness of an arrow to the mark.

We must not overlook the fact, however, that there can be a judicious introduction of ornamentation without destroying the simplicity of design. There are many fine examples of this ability. In Wagner's "Pilgrim's Chorus" we may follow the simple, beautiful melody above a very elaborate orchestral accompaniment. This requires consummate ability. John Ruskin once said that "it takes two men to paint a picture—one to execute the painting and the other to execute the painter before he spoils the picture." A striking example of the limitation in the embellishment of a design is shown in the effort of violin makers to improve that simple scroll of the head,—it can't be done, it represents the limit of elaboration of one of the gems of art.

There is also a danger of over doing the idea of simplicity. Carlyle wrote an essay on simplicity, in which he demonstrated how ideas that might ordinarily require a sentence of considerable length could be expressed in a single word; but the average reader would need a dictionary at his elbow to get the meaning. In other words we are past the day when we might make pictures against the black velvet drop, nor have many (I know of one who has not), reached a mental development sufficient to view one of Bel-Geddes arrangements of blocks and see in them "A Square in Athens."

Now let us determine what is meant by this force, *simplicity*. There are products of man's genius that stamp themselves upon the mind by the force of their simplicity; their effect is so positive, the impression so direct and complete and their purpose so fulfilled as to leave no doubt of their merit. We may offer many illustrations: Lincoln's Speech at Gettysburg; sweet melodies that linger in the memory from the cradle where they first reach us as a mother's lullaby to the last fleeting moments of the requiem; poems that bring the softening tear with each recurrence; that smile of old Frans Hals' wife which he so happily caught, as he "kidded" her while plying his deft brush strokes; Rodin's "Thinker" and even motion pictures that have triumphed over the final fade-out by the force of a simple story, simply mounted, simply directed and acted. One flashes into my mind immediately, curiously enough, it is "Nanook of the North."

To cultivate this idea of simplicity, let us ever keep in mind the simple rules of art,—that magic number three: Composition, color and technique in painting; in music, melody, harmonic accompaniment and interpretation; in architecture, entablature, column and base, which in turn are subdivided into cornice, frieze and architrave of the entablature, capital, shaft and base of the column and cornice, die and base of the pedestal; in photography, lighting, exposure and finishing; in writing, plot, style and characterization—unity, emphasis and coherence—introduction, development and conclusion.

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